# Bimekizumab Treatment Impact on Work Productivity in Biologic DMARD-Naïve and TNFi-IR Patients with Active Psoriatic Arthritis: Results up to 1 Year from Two Phase 3 Studies

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## Objective

**To report the impact of subcutaneous bimekizumab (BKZ) on work productivity in patients with active psoriatic arthritis (PsA) up to 1 year, in the phase 3 BE OPTIMAL and BE COMPLETE studies.**

## Background

- PsA impacts the physical health and functional ability of patients, which can contribute to reduced work productivity.[1]
- BKZ is a monoclonal IgG1 antibody that selectively inhibits interleukin (IL)-17F in addition to IL-17A.
- BKZ demonstrated efficacy and tolerability in patients with PsA in BE OPTIMAL (NCT03895203; biologic DMARD [bDMARD]-naïve patients) and BE COMPLETE (NCT03896581; patients with inadequate response or intolerance to TNF inhibitors [TNFi-IR]). BE VITAL is an ongoing open-label extension (NCT04009499).[2–5]

## Methods

- Patients were randomized to subcutaneous BKZ 160 mg or placebo (PBO) every 4 weeks at baseline (Q4W); PBO patients switched to BKZ at Week 16.
- Work productivity was derived from the Work Productivity and Activity Impairment Questionnaire – Specific Health Problem v2.0 (WPAI-SHP), adapted for PsA;[6] WPAI-SHP dimension scores are expressed as a percentage, where higher numbers indicate greater impairment and less productivity.
- Mean Change from Baseline (CfB) and mean percent CfB in WPAI-SHP dimension scores are reported for work time missed (absenteeism), impairment while working (presenteeism), overall work impairment, and activity impairment to Week 52 of BE OPTIMAL and Week 40 of BE COMPLETE.
- Clinically meaningful differences for presenteeism, overall work impairment, and activity impairment domains were estimated to be 20%, 15%, and 20%, respectively.[6]
- Proportions of patients gaining employment are reported to Week 52/40 (BE OPTIMAL/BE COMPLETE) in patients who were without employment at baseline.

## Results

- Baseline WPAI-SHP scores suggested impaired work productivity in both bDMARD-naïve and TNFi-IR patients (**Table 1**).
- At Week 16, BKZ-treated patients in both studies showed a reduction in overall work impairment from baseline compared with PBO-treated patients, with work productivity continuing to improve up to Week 52/40 (**Figure 1**, **Figure 2**).
- PBO-randomized patients who switched to BKZ at Week 16 demonstrated similar reductions in overall work impairment to BKZ-randomized patients at Week 52/40 (**Figure 1**, **Figure 2**).
- Trends were generally comparable for all dimensions in both studies. Greatest improvements were observed in activity impairment and presenteeism (**Figure 1**, **Figure 2**).
- Improvements in the proportion of BKZ-treated patients gaining employment were seen at Week 52/40 (**Figure 3**).

## Conclusions

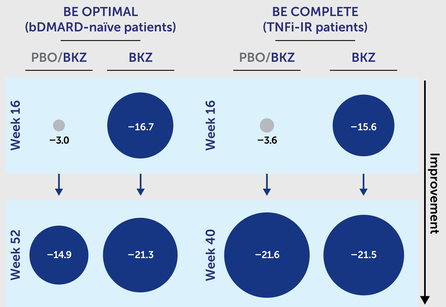
**Bimekizumab demonstrated clinically meaningful improvements in presenteeism, overall work impairment, and activity impairment to Week 16,[6] with all components of work productivity continuing to improve up to 1 year (Week 52/40). Improvements in work productivity were similar in bDMARD-naïve and TNFi-IR patients, demonstrating consistent response with bimekizumab treatment.**

## Summary

The impact of bimekizumab on **work productivity** was assessed **up to 1 year** using data from **BE OPTIMAL (bDMARD-naïve) and BE COMPLETE (TNFi-IR)**

At baseline, mean **overall work impairment** was **34.2%–40.7%** for patients with active PsA across **BE OPTIMAL (bDMARD-naïve patients)** and **BE COMPLETE (TNFi-IR patients)**

Bimekizumab-treated patients showed a **greater mean reduction** in **overall work impairment** from baseline vs placebo

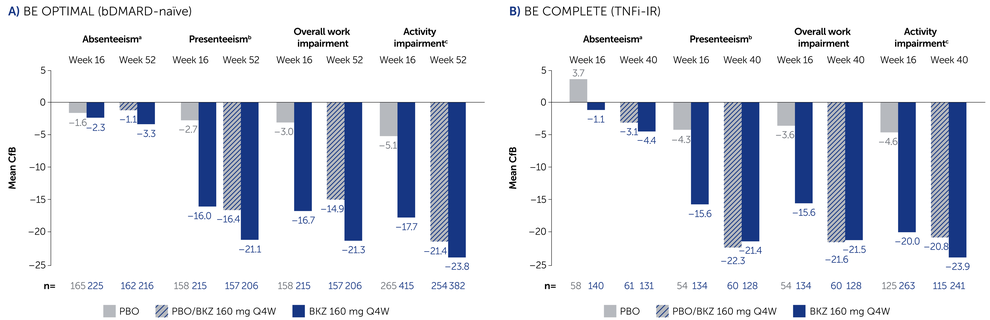



Bimekizumab treatment resulted in **clinically meaningful improvements** in all **WPAI-SHP dimensions** to Week 16, and **continued improvement** in work productivity up to **1 year**

Improvements in work productivity were similar **regardless of prior exposure to biologics**

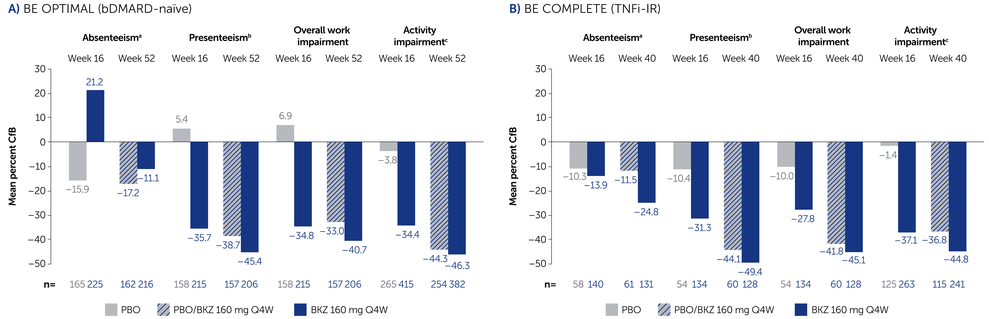
Bimekizumab treatment resulted in **improvements** in the proportion of patients unemployed at baseline **gaining employment** by **Week 52/40**

**Figure 1** Mean change from baseline in work productivity for (A) bDMARD-naïve patients at Week 16 and Week 52 (BE OPTIMAL), and (B) TNFi-IR patients at Week 16 and Week 40 (BE COMPLETE) (OC)




Randomized set. A negative mean change from baseline score indicates a reduction in the score and therefore an improvement for the patient. [a] Work time missed due to PsA; [b] Impairment while working due to PsA; [c] Ability to undertake regular, non-work-related activities (e.g., childcare).[6,7]

**Figure 2** Mean percent change from baseline in work productivity for (A) bDMARD-naïve patients at Week 16 and Week 52 (BE OPTIMAL), and (B) TNFi-IR patients at Week 16 and Week 40 (BE COMPLETE) (OC)



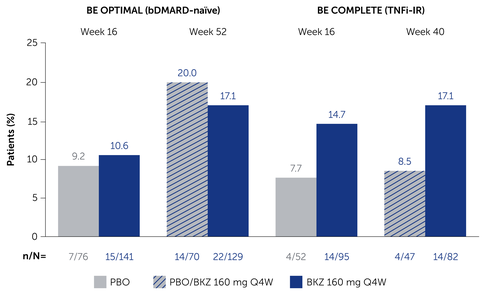

Randomized set. A negative mean percent change from baseline score indicates a reduction in the score and therefore an improvement for the patient. [a] Work time missed due to PsA; [b] Impairment while working due to PsA; [c] Ability to undertake regular, non-work-related activities (e.g., childcare).[6,7]

**Table 1** Baseline employment status and WPAI-SHP dimension scores for bDMARD-naïve patients (BE OPTIMAL) and TNFi-IR patients (BE COMPLETE) (OC)

| | BE OPTIMAL (bDMARD-naïve patients) | | BE COMPLETE (TNFi-IR patients) | |
|---|---|---|---|---|
| | PBO/BKZ 160 mg Q4W n=281 | BKZ 160 mg Q4W n=431 | PBO/BKZ 160 mg Q4W n=133 | BKZ 160 mg Q4W n=267 |
| **Employment status**, n (%) | | | | |
| Employed at study start | 197 (70.1) | 280 (65.1)[a] | 78 (58.6) | 171 (64.0) |
| **WPAI-SHP dimension score**,[b] mean % (SD) [n/N][c] | | | | |
| Absenteeism[d] | 8.5 (22.1) [189/197] | 7.7 (21.4)[a] [270/280] | 7.1 (19.7) [75/78] | 9.7 (20.4) [162/171] |
| Presenteeism[e] | 32.3 (24.7) [181/197] | 34.8 (25.7) [262/280] | 38.6 (26.6) [73/78] | 38.0 (26.3) [158/171] |
| Overall work impairment | 34.2 (26.3) [181/197] | 37.0 (27.2) [262/280] | 40.3 (28.1) [73/78] | 40.7 (27.9) [158/171] |
| Activity impairment[f] | 43.2 (24.5) | 43.2 (24.4)[a] | 47.1 (26.0) | 46.5 (25.6) |

Randomized set. [a] Data missing for one patient; [b] Dimensions were assessed only in patients employed at baseline, with the exception of the activity impairment dimension which was assessed for the entire cohort; [c] n=patients assessed at baseline, N=patients employed at baseline; [d] Work time missed due to PsA; [e] Impairment while working due to PsA; [f] Ability to undertake regular, non-work-related activities (e.g., childcare).[6,7]

**Figure 3** Proportion of patients gaining employment for bDMARD-naïve patients at Week 16 and Week 52 (BE OPTIMAL), and TNFi-IR patients at Week 16 and Week 40 (BE COMPLETE) in patients without employment at baseline (OC)




Randomized set. In patients without employment at baseline.

bDMARD: biologic disease-modifying antirheumatic drug; **BKZ:** bimekizumab; **CfB:** change from baseline; **IL:** interleukin; **OC:** observed case; **PBO:** placebo; **PsA:** psoriatic arthritis; **Q4W:** every 4 weeks; **SD:** standard deviation; **TNFi:** tumor necrosis factor inhibitor; **TNFi-IR:** inadequate response or intolerance to TNFi; **WPAI-SHP:** Work Productivity and Activity Impairment Questionnaire – Specific Health Problem v2.0.

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